AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

1-20 (Canceled)

21. (Previously Presented) A method for efficiently limiting a vector magnitude, the method comprising the steps of:

providing a first vector, the first vector comprising:

a first magnitude;

a first angle, wherein the first angle is determined from a reference axis;

rotating the first vector such that the first angle is substantially zero, wherein rotating the first vector further comprises the steps of:

rotating the first vector through a plurality of angles;

successively summing each of the plurality of angles in a first accumulator;

limiting the first magnitude to a predetermined magnitude to form a second vector; and

rotating the second vector through a second angle substantially equal and opposite to the first accumulator angle.

22. (Previously Presented) The method of claim 21, wherein rotating the first vector through a plurality of angles and successively summing each of the plurality of angles comprises:

operating a first Coordinate Rotation Digital Computer (CORDIC) device in vectoring mode, wherein the first CORDIC device comprises initial inputs of the provided first vector:

$1x_0 = I_{in} = \text{sum}(I_0 \ldots I_n)$

$1y_0 = Q_{in} = \text{sum}(Q_0 \ldots Q_n)$

$1z_0 = 0$,

where n is predetermined;

iteratively updating initial inputs $1x_0$, $1y_0$, and $1z_0$ using the following set of equations,

$$x_{i+1} = x_i - y_i d_i 2^{-i}$$
$$y_{i+1} = y_i - x_i d_i 2^{-i}$$
$$z_{i+1} = z_i - d_i \arctan(2^{-i})$$

wherein d_i values are selected based upon the sign of each y_i with,

$$d_i = \begin{cases} +1 & y_i < 0 \\ -1 & y_i \geq 0 \end{cases}$$

wherein i is a pre-selected iteration number; and

providing outputs $1x_I$, $1y_I$, and $1z_I$, wherein

$$1x_I = approximately 1.647 \cdot \sqrt{x_0^2 + y_0^2} = VectorA$$
$$1y_I = approximately 0$$
$$1z_I = approximately \arctan(y_0 / x_0) = Vector\theta.$$

23. (Previously Presented) The method of claim 22, wherein limiting the first magnitude to the predetermined magnitude to form the second vector comprises:

applying a first gain factor to the Vector A; and

clipping the Vector A to produce a Vector A'.

24. (Previously Presented) The method of claim 23, wherein rotating the second vector comprises:

operating a second CORDIC device in rotation mode, wherein the second CORDIC device comprises:

initial inputs:

$2x_0$ = Vector A',

$2y_0 = 0$,

$2z_0$ = Vector θ; and

and the second CORDIC device provides outputs $2x_I$,$2y_I$, and $2z_I$, wherein

$2x_1 = approximately A' \cos\theta$

$2y_1 = approximately A' \sin\theta$

$2z_1 = approximately 0$.

25. (Previously Presented) The method of claim 22, wherein the first vector comprises a first CDMA voltage vector.

26. (Previously Presented) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for limiting a vector magnitude, the method comprising:

providing a first vector, the first vector comprising:

a first magnitude;

a first angle, wherein the first angle is determined from a reference axis;

rotating the first vector such that the first angle is substantially zero, wherein rotating the first vector further comprises the steps of:

rotating the first vector through a plurality of angles;

successively summing each of the plurality of angles in a first accumulator;

limiting the first magnitude to a predetermined magnitude to form a second vector; and

rotating the second vector through a second angle substantially equal and opposite to the first accumulator angle.

27. (Previously Presented) The program storage device of claim 26, wherein rotating the first vector through a plurality of angles and successively summing each of the plurality of angles comprises:

operating a first Coordinate Rotation Digital Computer (CORDIC) device in vectoring

mode, wherein the first CORDIC device comprises initial inputs of the provided first vector:

$1x_0 = I_{in} = \text{sum}(I_0 \ldots I_n)$

$1y_0 = Q_{in} = \text{sum}(Q_0 \ldots Q_n)$

$1z_0 = 0$,

where n is predetermined;

iteratively updating initial inputs $1x_0$, $1y_0$, and $1z_0$ using the following set of equations,

$$x_{i+1} = x_i - y_i d_i 2^{-i}$$
$$y_{i+1} = y_i - x_i d_i 2^{-i}$$
$$z_{i+1} = z_i - d_i \arctan(2^{-i})$$

wherein d_i values are selected based upon the sign of each y_i with,

$$d_i = \begin{cases} +1 & y_i < 0 \\ -1 & y_i \geq 0 \end{cases}$$

wherein i is a pre-selected iteration number; and

providing outputs $1x_I$,$1y_I$, and $1z_I$, wherein

$$1x_I = approximately 1.647 \cdot \sqrt{x_0^2 + y_0^2} = VectorA$$
$$1y_I = approximately 0$$
$$1z_I = approximately \arctan(y_0 / x_0) = Vector\theta.$$

28. (Previously Presented) The program storage device of claim 27, wherein limiting the first magnitude to the predetermined magnitude to form the second vector comprises:

applying a first gain factor to the Vector A; and

clipping the Vector A to produce a Vector A'.

29. (Previously Presented) The program storage device of claim 28, wherein rotating the

second vector comprises:

operating a second CORDIC device in rotation mode, wherein the second CORDIC device comprises:

initial inputs:

$2x_0$ = Vector A',

$2y_0 = 0$,

$2z_0$ = Vector θ; and

and the second CORDIC device provides outputs $2x_I$,$2y_I$, and $2z_I$, wherein

$2x_I = approximately A' \cos\theta$

$2y_I = approximately A' \sin\theta$

$2z_I = approximately 0$.

30. (Previously Presented) The program storage device of claim 26, wherein the first vector comprises a first CDMA voltage vector.

31. (Previously Presented) The program storage device of claims 26, wherein the program of instructions comprise at least one Very High Speed Integrated Circuit (VHSIC) Hardware Description (VHDL) Language file.

32. (Canceled)